

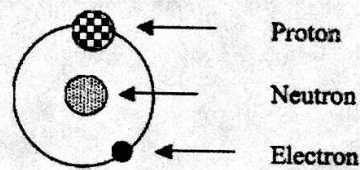
- If two elements do not have the same number of protons...
  - Are they the same element? NO
  - Can they be isotopes? NO
- If Chlorine 35 has 17 protons; 18 electrons; 18 neutrons, which of the following is an isotope?
 

Atom A: 12 protons; 12 electrons; 13 neutrons

Atom B: 14 protons; 13 electrons; 14 neutrons

Atom C: 17 protons; 17 electrons; 17 neutrons
- If an atom has 19 protons and 20 neutrons...
  - What is the element? POTASSIUM
  - How many total particles in the nucleus? 39
  - What is the Mass # for this element? 39
- Oxygen...
  - Is in what row? 2
  - How many **Full** electron levels (Bohr)? 2  
*E.C. = 2, 6 (ONE FULL SHELL)*
- What is wrong with this atom?
 

PROTON SHOULD BE IN THE NUCLEUS


- Using your periodic table:
  - What is sodium's chemical symbol? Na
  - What is the Mass # of sodium? 23
  - How many neutrons does sodium have? 12
- What experiment found the nucleus?
 

RUTHERFORDS GOLD FOIL EXP.
- J.J. Thompson...
  - Found what part of the atom? THE ELECTRON
  - Developed what model for the atom? PLUM PUDDING
- What contribution did Niels Bohr bring to the atomic model theory?
 

ELECTRONS ARE FOUND IN ORBITS - ONLY A SET # OF E- CAN FIT IN EACH
- The positive subatomic particle: PROTON
- The negative subatomic particle: ELECTRON
- Metals or Non-metals:
 

Iron <u>METAL</u>	Cesium <u>METAL</u>
Chlorine <u>NON-METAL</u>	Silver <u>METAL</u>
Neon <u>NON-METAL</u>	Mercury <u>METAL</u>
Hydrogen <u>NON-METAL</u>	Magnesium <u>METAL</u>

- Give the valence e- for the following:
 

Sodium <u>1</u>	Helium <u>2</u>
Fluorine <u>7</u>	Aluminum <u>3</u>
Neon <u>8</u>	Nitrogen <u>5</u>
Hydrogen <u>1</u>	Oxygen <u>6</u>
- Do electrons want to bunch up or spread out?
  - Why or Why not? SPREAD OUT - THEY HAVE LIKE CHARGES WHICH REPEL
- Nitrogen 15 has 7 protons and 8 neutrons.
- Neon 21 has 10 protons and 11 neutrons.
- Potassium...
  - What row is (K) in: 4
  - How many **Full** electron levels (Bohr): 4  
*E.C. = 2, 8, 8, 1 (3 FULL SHELLS)*
- Are these elements/ atoms isotopes of each other?
 

Atom A: 15 protons; 18 electrons; 16 neutrons

Atom B: 16 protons; 17 electrons; 16 neutrons

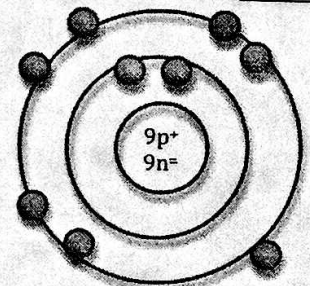
NO
- Are these elements/ atoms isotopes of each other?
 

Atom A: 16 protons; 18 electrons; 16 neutrons

Atom B: 16 protons; 17 electrons; 17 neutrons

YES
- Which particle would you add to the nucleus to add more mass, but **not** add more charge?
 

CIRCLE:  
(Proton, Neutron, or Electron)
- For each off the following elements, give another element that has similar chemical properties. (Hint: there are multiple correct answers.)
 

Beryllium <u>Mg</u>	Oxygen <u>S</u>
Phosphorous <u>N</u>	Aluminum <u>B</u>
Iodine <u>F</u>	Argon <u>Ne</u>
Potassium <u>Rb</u>	Silicon <u>C</u>
- 
  - Element: FLUORINE
  - # of neutrons: 9
  - Mass #: 18
  - # of Valance Electrons: 7



# Electron Trends on the Periodic Table Review

1A 2A 13A 14A 15A 16A 17A 18A

METALS

TRANSITION METALS

RARE EARTH METALS

LANTHANIDES

ACTINIDES

NM

23. Label...

- 8 Main Representative families.
- Transition (Inner) Metals
- Rare Earth Metals
  - Lanthanides
  - Actinides
- Location of...
  - Metals
  - Non-metals
  - ~~Metalloids~~

24. Elements on the same Family/ Column have this in common? (HINT: Two things)

VALANCE ELECTRON  
 PROPERTIES

25. Elements on the same Row/ Period have this in common?

TOTAL ENERGY LEVELS

26. In General... How do these trends/ patterns on the periodic table increase?

- Atomic #: INC
- Atomic Mass #: INC
- Atomic Radius: INC